"The IBR: Your Insurance Policy for a Sound Baseline"

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Integrated Baseline Review (IBR) Definition

- A required review led by a Project Manager with support from technical and business subject matter experts following contract award to validate the technical, schedule, and cost content of the contractor's Performance Measurement Baseline (PMB).

According to NASA NPR 7120.5D: NASA Space Flight Program & Project Management Requirements…

"Integrated Baseline Review (IBR). A joint assessment by the offeror/contractor and the Government to verify the technical content and the realism of the related performance budgets, resources and schedules. It should provide a mutual understanding of the inherent risks in the offerors'/contractors' performance plans and the underlying management control systems, and it should formulate a plan to handle these risks."

IBR Objectives… What should be accomplished?

- Encourages reliable, up-front planning and ensures the PMB is established, well understood and is being properly implemented
- Verify that the integrated technical, cost and schedule baseline captures the approved technical scope of work and identifies all deliverables
- Understand the contractor's internal Earned Value Management System (EVMS)
- Gain confidence they are committed to the principles and use of their EVM processes, principles, and toolsets
- Identify unknown risks and develop mitigation plans and schedules to minimize negative impacts
- Gain an understanding of the earned value methods for each control account. Determine if the methods chosen will provide meaningful status/progress data. Are the right methods used in the right places?

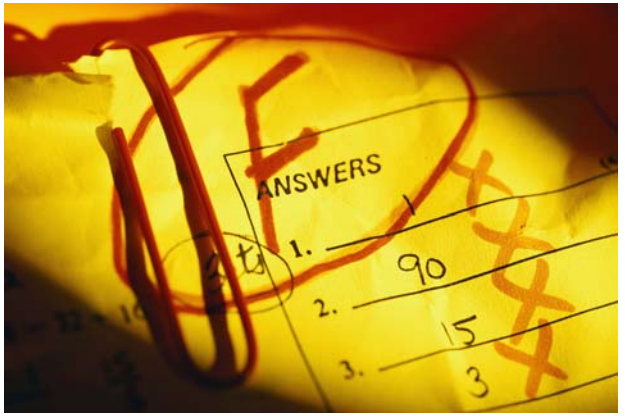
IBR Objectives (Continued)

- Validate budgeted resources (personnel, material, facilities, skills, etc.) are available and adequate to complete assigned tasks in the designated timeframes
- Fosters an environment to boost stakeholder ownership of the baseline and the performance measurement process
- Verify key project milestones are identified. Validate that realistic detail level schedules exist and are executable to accomplish key milestones. Schedules must include vertical and horizontal traceability
- Obtain assurance that the contractor can successfully execute the project as planned

"The IBR Team Must Gain Confidence that the Right People are Planning the Right Work at the Right Time with the Right Resources"

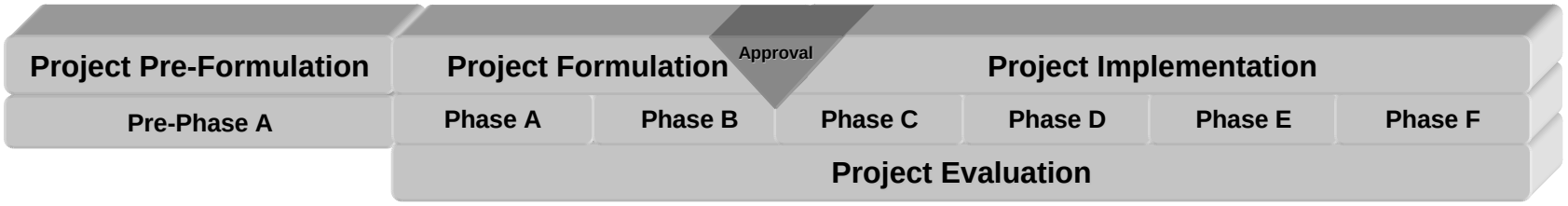
The IBR is NOT...

- An Inspection, audit, or design review
- A pass/fail event
  - NASA customer will work with the contractor until all IBR actions are resolved
- A time to resolve technical issues
- A demonstration of EVMS compliance
  - EVMS findings will be forwarded to Defense Contract Management Agency (DCMA) for surveillance
- An opportunity to redirect or change the contract
- An “Event” but an ongoing “Process”



Timing of IBRs… When should it happen?

- Within 180 days of contract award per NASA FAR Supplement
- After the planning and budgeting has been completed at the Control Account level
- When a major contract modification impacts the contractor's PMB
- Whenever there is a significant shift in content or time phasing of the PMB



The IBR Team… Who participates?

- Project Manager
- IBR Coordinator
- Review Facilitator
- Sub-team Technical Leads/Technical Experts
- Cost/Schedule Analysts
- DCMA/DCAA
- Business Office Manager/Support Personnel
- Contracting Officer/Support Personnel

The IBR Team (Continued)

- Member Responsibilities:
  - Attend and participate in meetings and training sessions to prepare for the documentation and on-site review
  - Become familiar with the contractor's control account documentation and any other supplementary information provided by the contractor
  - Understand your assigned role and responsibility in the review and be willing to carry out these responsibilities
  - Be committed to assigned team activities and serve in a professional and responsive manner
  - Prepare and submit findings in a timely manner. Ensure that all findings are documented by factual evidence
  - Assist the Team Lead in the preparation of the out-briefing and final report

"The multi-functional Team (Technical, Cost, Schedule) approach affords the opportunity to leverage knowledge and experience"

The IBR Team (Continued)

- Project Manager (Team Leader or Review Director)
  - Conducts an in-brief on the goals & objectives of the IBR
  - Serves as overall director of team's activities with ultimate responsibility for the final assessment of the PMB
  - Oversees and approves activities associated with the review (team planning, review schedules, meeting agendas, etc.)
  - Ensures team is staffed with qualified technical/business/program control personnel and approves team technical review assignments
  - Serves as final authority for problems/discrepancies which may arise during the review
  - Oversees development and coordination of the out-briefing to document review findings
  - Conducts an out-briefing at the conclusion of the IBR
- IBR Coordinator
  - Coordinated logistics for the IBR
  - Prepare the IBR Team Handbook
  - Assist with training, data collection, meetings, etc.
  - Collect forms, maintain IBR log, and support the PM during the IBR.

The IBR Team (Continued)

- Review Facilitator
  - Supports the PM as required in activities related to planning and conducting the IBR
  - Provides IBR training
  - Participate in baseline discussions
  - Assess resources and schedule risk
  - Provides overall guidance in the discipline of EVM to team members
  - Achieve mutual understanding of baseline with counterparts
  - Resolve differences or document any concerns or issues
  - Document results for follow-up actions
- Sub-Team Technical Lead/Technical Experts
  - Lead and conduct baseline discussions
  - Assess technical, resources, and schedule risk
  - Achieve mutual understanding of baseline with contractor counterpart
  - Resolve differences or document concerns and issues

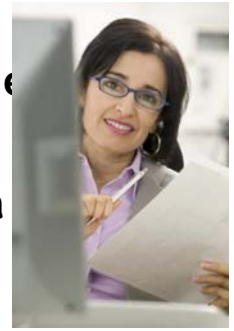
The IBR Team (Continued)

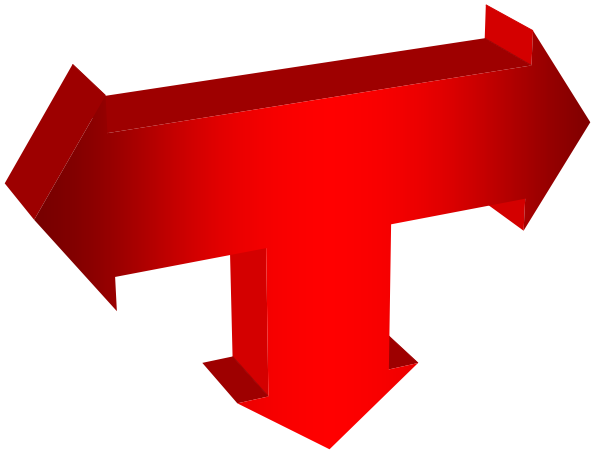
- Cost/Schedule Analysts
  - Assess resources and schedule risk
  - Participate in baseline discussions
  - Understand EV methodologies chosen
  - Assess completeness of work allocation
  - Achieve mutual understanding of baseline with contractor counterpart
  - Resolve differences or document concerns or issues
  - Report to team leader daily
  - Document results for future action
- DCMA/DCAA
  - Invited to participate in the IBR, particularly at the in-brief, but there is no specific role for them during the IBR
  - Provides surveillance of the validated EVMS

IBR Team Responsibilities - Understand Project Risk

TECHNICAL

- Tech Specs
- Tech Work Assignments
- Tech Reviews/Mile
- Tech Plan
- Exit Criteria

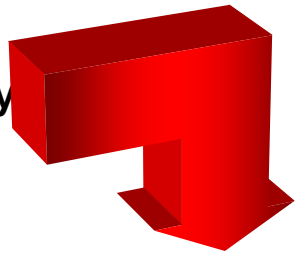




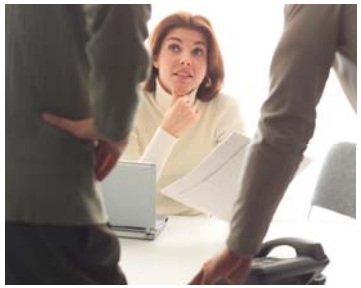
SCHEDULE/COST

- WBS
- RAM
- IMS
- PMB
- EVMS

- Technical Content
- Schedule Achievability
- Budget Validity
- Project RISK



The result:
PMB Confidence



Typical IBR Information Requirements

- Statement of Work (SOW), including major deliverables
- Contract dollar value, period of performance, etc.
- Work Authorization Document (WAD)
- Dollarized Responsibility Assignment Matrix (RAM)
- Work Breakdown Structure (WBS) & WBS Dictionary
- Organizational Breakdown Structure (OBS)
- Time-phased resource loaded Control Account Plan (CAP) Sheets
- Integrated Master Schedule (IMS) with critical path identified
- Contract Performance Report (CPR) Earned Value data (Status-to-date for cost, schedule and performance)
- Project Implementation Plan, including assumptions
- Already identified risks and mitigation plans
- Management Reserve (plan and basis)
- Schedule Contingency (plan and basis)
- Issues and challenges
- Current Contractor EVMS Description/NASA Integrated Program Management Directives
- LOE % vs. Discrete % at the Contract WBS Reporting Level

Example IBR Team Handbook Contents

- Agenda
- Team Assignments/Interview Schedule
- Statement of Work
- WBS Dictionary
- WBS
- OBS
- Dollarized RAM
- Control Account Manager (CAM) Findings
- IMS Findings (Health Check)
- EVMS System Description
- Discussion Guidelines
- Sample Questions
- Documentation Guidelines
- Sample Documentation
- Known/Identified Project Risks and Risk Evaluation Criteria
- Glossary of Terms

Traditional NASA IBR Approach

- Pre-IBR Activities
  - Phase 1 (45 days prior to IBR)
  - Phase 2 (3 weeks prior to IBR)
- On-site IBR Activities
  - Phase 3 (Typically 2 – 3 days)
- Post-IBR Activities
  - Phase 4 (Within 30 days after IBR)

Traditional NASA IBR Approach (Continued)

- Pre-IBR Activities – Phase 1 (45 days prior to IBR)
  - Send Notification Letter to contractor
  - Begin identification of NASA review team members
  - Coordinate review dates with contractor
  - Identify and review contractor's WBS
  - Collect sample contractor EVMS and Control Account documents
  - Develop NASA IBR team orientation
  - Customized IBR training materials and develop training schedule

Traditional NASA IBR Approach (Continued)

- Pre-IBR Activities – Phase 2 (3 weeks prior to IBR)
  - Finalize the review team
  - Provide IBR training to the team as appropriate
  - Provide team with latest project analysis
  - Assign WBS review teams
  - Ensure a preliminary review has been done of specific project documentation for each sub-team
  - Finalize IBR agenda
  - Distribute the IBR Handbook to team members
  - Finalize the list of CAM's to be interviewed
  - Conduct mock CAM interview

Traditional NASA IBR Approach (Continued)

- On-site IBR Activities – Phase 3 (Typically 2 - 3 days)
  - Conduct IBR in-brief
  - Review of internal documentation, as necessary
  - Conduct CAM discussions and project team interviews
  - CAM discussions will include:
    - Technical content of Control Accounts and Work Packages
    - Integration of the Control Account schedules with the IMS
    - Application of sufficient resources (labor, materials, subs) to the scheduled work
    - Identification of risk elements contained within the Control Accounts
    - Discussion Assessment Form filled out for each Control Account
    - Potential concerns recorded in the IBR Concern Area Report (CAR) Form
    - Potential risks should be documented on the Risk Assessment Form

Traditional NASA IBR Approach (Continued)

- On-site IBR Activities – Phase 3 (Continued)
  - IBR Concern Area Reports and Risk Assessment Forms are given to the Review Director for consideration and consolidation
  - Document results of CAM discussions
  - Identify, document, and assign action items
  - Prepare out-brief of results, with follow-up action items
  - Brief the contractor of results, providing action items if required

Traditional NASA IBR Approach (continued)

- Post-IBR Activities – Phase 4 (Within 30 days after)
  - Documentation
    - IBR results are reported in a formal Review Letter
    - Letter should include action items and corrective actions
  - Monitor action item progress to closure

Example CAM Notebooks Contents

- Statement of Work
- WBS
- WBS Dictionary
- OBS
- Dollarized RAM
- Summary Schedules
- Detailed Schedules
- WAD
- CAP Sheets
- Others

Note: Can be electronic or hardcopy notebooks.

CAM Discussion

- Prepare – Prepare – Prepare
- Government technical lead is in charge of the discussion
- Conduct of the Discussion
  - Sit beside the CAM. Sitting across the table creates more of a confrontational atmosphere
  - Start on time
  - Appoint a scribe from the government team to document the discussion. All requests for additional documentation, newly identified risks/cost avoidance opportunities, and CAR's should be recorded
  - Have attendees introduce themselves and state their purpose for attending. This is not a general audience forum. Attendance should be limited to those having a vested interest
  - Set the stage for a discussion/conversation rather than for an interview. 'Break the ice'. Give the CAM an opportunity to relax

CAM Discussion (Continued)

- Conduct of the Discussion (Continued)
  - Summarize what you intend to cover and your end goals for the discussion
  - Limit distractions – ask attendees to turn off cell phones. CAM should limit interruptions from his admin staff
  - Maintain control of the interview. Provide opportunities for others to ask questions (may be during the interview or at the end)
  - Phrase questions that will require a detailed response. Avoid questions that may lead to a Yes/No response.
  - Ensure CAM (not the support team) answers the questions. The CAM's support team may provide additional/supporting detail when requested by the discussion lead. If the CAM's answer is ill-defined or unclear, continue to probe with additional questions in the area of concern.
  - Use "Show me" statements versus "tell me" statements. Have the CAM show answers in his CAM Notebook

CAM Discussion (Continued)

- Conduct of the Discussion (Continued)
  - Use the questionnaire as a ‘guide’ to assist you through the discussion. Identify and prioritize your questions before the discussion.
  - At the end of the interview discuss any follow-up actions and potential CARs
  - Don’t make derogatory comments
  - Don’t Allow the discussion to turn into a technical problem resolution session
- Remember the CAM and his team expended time and energy to prepare and host the discussion. Express thanks to the CAM and their team.

Typical CAM Discussion Problems

- Expectations not clearly defined
- Little or no advance preparation
- Key project personnel are new or not knowledgeable
- “Yes/No” responses without suitable detail backup
- Participants distracted or unfocused
- Discussion not held in a conducive environment (too small to accommodate the team, not convenient for CAM to retrieve additional documentation, escort required or unavailable, etc)
- Information / documentation not available for early review
- Interruptions (phones, people, beepers)
- “Strap-hangers” outnumber participants
- CAM is not prepared / familiar with documentation
- CAM’s support team answers all the questions
- “Tells You” versus “Shows You”
- “I am an engineer …not a bean counter”

Summary

- The IBR is an event, however the purpose and objectives should be viewed as a continuing process
- The purpose of an IBR is to achieve a mutual understanding of the risks inherent on the PMB and the management control processes that will operate during execution
- IBR preparation and planning are the key to a successful review
- A PMB that is complete and documented at the appropriate level of detail is a key element for project management to successfully achieve project objectives
- Anything that does not support the purpose should be moved outside the review
- Evaluate the integrated PMB to determine whether it, captures the entire scope of work, is consistent with authorizing documents, and has adequate resources to meet schedule requirement and planned project tasks
- Document findings and concerns for corrective action

http://evm.nasa.gov